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JAN 24 2008

In view of the foregoing amendments and the following remarks, the applicants respectfully submit that the pending claims comply with 35 U.S.C. § 101 and are not rendered obvious under 35 U.S.C. § 103. Accordingly, it is believed that this application is in condition for allowance. If, however, the Examiner believes that there are any unresolved issues, or believes that some or all of the claims are not in condition for allowance, the applicants respectfully request that the Examiner contact the undersigned to schedule a telephone Examiner Interview before any further actions on the merits.

The applicants will now address each of the issues raised in the outstanding Office Action. Before doing so, however, the undersigned would like to thank Examiner Barot for courtesies extended during a telephone interview on January 8, 2008 (referred to as "the telephone interview").

Telephone Interview Summary

This statement of the substance of the Interview summarizes the issues discussed on January 8, 2008 in a telephone interview. This Interview Summary is presented in the format suggested in MPEP § 713.04 by the Patent Office.

Date of Interview: January 8, 2008

Type of Interview: Telephone

Name of Participants:

- Examiner: Bharat Barot
- For Applicants: John C. Pokotylo
Leonard P. Linardakis

A. Exhibit(s) Shown: None**B. Claims discussed:** 1, 6, 14 and 25**C. References Discussed:**

- U.S. Patent No. 6,965,592 ("the Tinsley patent")
- U.S. Patent No. 7,151,775 ("the Renwick patent")

D. Proposed Amendments discussed:

- The Examiner and applicants' representatives generally discussed clarifying some of the elements recited in the claims.
- The Examiner suggested amending claim 14 to more clearly show that the fields recited can be executed/processed to overcome the § 101 rejection.

**E. Discussion of General Thrust
of the Principal Arguments**

- The applicants' representatives requested clarification of the Examiner's interpretation of the teachings of the cited references with respect to the following recited elements in the claims:
 - the 'further message' generated in claims 1 and 25;

- the 'extended information' in claims 1 and 25;
- the determination of whether or not to generate a further message based on determining whether or not the message includes extended information in claims 1 and 25; and
- the 'resolution next hop' information in claim 6.

- The § 101 rejection of claim 14 was discussed. The Examiner suggested amending claim 14 to more clearly show that the fields recited can be executed/processed.

F. Other Pertinent Matters Discussed: None

G. General Results/Outcome of Interview

- The Examiner stated that he is interpreting the IPV6 header (602 of Figure 6(A) of the Tinsley patent) as the claimed "first part of a message" and the MPLS header (604 of Figure 6(A) of the Tinsley patent) as both the claimed "second part of a message" and the claimed "extended information".
- The Examiner suggested that the applicants forward their arguments and amendments in a response to the outstanding Office Action for consideration.

Rejections under 35 U.S.C. § 101

Claims 14, 16, 17, 19 and 24 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject

matter. The applicants respectfully request that the Examiner reconsider and withdraw this ground of rejection in view of the following.

During the telephone interview, the Examiner maintained that claim 14 recites a data structure that is not in a manner so as to be executable by a computer/processor. Further, the Examiner contends that claim 14 recites a collection of fields, per se, which is not an actual data structure, instead being non-functional descriptive material. (See Paper No. 20070904, page 2.)

Claim 14, as amended, recites that each of the three fields is stored in association with a label-switched path. Accordingly, the claim recites "a physical or logical relationship among data elements, designed to support specific data manipulation functions," and not a mere collection of unrelated fields. Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility, OG Notices, (November 22, 2005).

In addition, the applicants respectfully note that the data structure **need not be executable** by a computer or a processor. Indeed, Guidelines of the US Patent Office state:

a claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory

"Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility," OG Notices, (November 22, 2005).

However, in order to address the Examiner's concerns, claim 14 has been further amended to more clearly recite the functional utility provided by the data structure when processed by a forwarding device. Specifically, claim 14, as amended, recites in pertinent part:

wherein a forwarding device, receiving the message, processes the message to (1) determine whether or not the forwarding device has a routing table entry that matches at least one of (A) the forwarding equivalency class information included in the second field, and (B) the host address or the host prefix included in the third field, and (2) use the label included in the first field for forwarding data only if the forwarding device determined that the forwarding device has a routing table entry that matches at least one of (A) the forwarding equivalency class information included in the second field, and (B) the host address or the host prefix included in the third field.

Thus, claim 14, as amended, recites a physical or logical relationship among data elements, designed to support specific data manipulation functions (i.e., functional descriptive material) stored on a machine-readable storage device. (Note that the exemplary storage devices described in paragraph [0061] of the specification of the present application may be computer-readable.)

The applicants respectfully submit that claims 14, 16, 17, 19 and 24 recite statutory subject matter in view of the foregoing. (Claims 16, 17, 19 and 24 directly or indirectly depend from claim 14.) Consequently, the applicants respectfully request that the Examiner reconsider and withdraw this ground of rejection.

Rejections under 35 U.S.C. § 103

Claims 1-14, 16, 17, 19 and 24-43 stand rejected under U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,965,592 ("the Tinsley patent") in view of U.S. Patent No. 7,151,775 ("the Renwick patent"). The applicants respectfully request that the Examiner reconsider and withdraw this ground of rejection in view of the following.

Independent claims 1 and 25, as amended, are not rendered obvious by the Tinsley and Renwick patents because these patents, either taken alone or in combination, fail to teach or suggest acts of (or means for) determining whether or not a message includes extended information, if the message does not include extended information, determining, using a first part of the message and routing information, whether or not to generate a further message to signal the label-switched path, and ***if the message does include extended information, determining, using a second part of the message and routing information, whether or not to generate a further message to signal the label-switched path.*** Further, one skilled in the art would not have been motivated to combine the Tinsley and Renwick patents as proposed by the Examiner.

In rejecting original claims 1 and 25, the Examiner contends that the Tinsley patent teaches a method for establishing a label-switched path and using a first part of a message if the message does not include extended information, and using a second part of the message if the message includes extended information. (See Paper No. 20070904, page 3.) Specifically, during the telephone interview, the Examiner explained that he is interpreting the IPV6 header (602 of Figure 6(A) of the Tinsley patent) as the claimed "first part of a message" and the MPLS header (604 of Figure 6(A) of the Tinsley patent) as both the claimed "second part of a message" and the claimed "extended information". The applicants respectfully disagree with these characterizations.

The Tinsley patent describes distributing SS7 functions, previously performed centrally, using distributed gateway routing elements (DGREs). Figure 8 illustrates routing (that is, forwarding) an outgoing SS7 message by a DGRE. Figure 9 illustrates processing a received SS7 message. In both cases, a virtual interprocessor message transport (IMT) bus is used to communicate messages between DGREs. MPLS is described in columns 6 and 7 as a way of ensuring quality of service ("QoS") for communications between the DGREs. Thus, MPLS is described as one way of providing a virtual IMT bus with an appropriate QoS.

Note that the Tinsley patent does not concern receiving a message for **establishing** a label-switched path (LSP) as recited in claims 1 and 25, as amended. Although multiprotocol label switching ("MPLS") can provide a label-switch path, the Tinsley patent is

concerned with communications that might be facilitated by **previously established** MPLS-based label-switched paths. Further, although SS7 concerns call setup, call teardown and database access features, it does not concern establishing a **label-switched path**.

Furthermore, packet 600 of Figure 6(A) of the Tinsley patent is for carrying data to be communicated (via the virtual IMT bus) among distributed SS7 DGRES. The IP header 602 and MPLS header 604 are simply used to **forward** the packets, preferably with an appropriate quality of service (QoS), and are not used to determine whether or not to generate a further message to signal a label-switched path.

The Examiner concedes that the Tinsley patent does not teach determining whether or not to generate a further message to signal the label-switched path. (See Paper No. 20070904, page 3.) However, the Examiner cites the Renwick patent as teaching this feature. The applicants respectfully disagree.

The Renwick patent concerns providing techniques for allocating multiple label-switched paths in a route that has multiple physical links using MPLS. The Renwick patent attempts to distribute traffic to relieve congestion while ensuring that the traffic of individual flows is not routed over different paths. Although the Renwick patent concerns establishing label-switched paths, it does not determine whether to use a first part or a second part of a message to generate a further message for signaling the label-switched path depending on whether the message includes extended information.

As can be appreciated from the foregoing, the Tinsley and Renwick patents neither teach, nor suggest,

the acts or means recited in independent claims 1 and 25, as amended. Thus, the claims are not rendered obvious by the Tinsley and Renwick patents for at least this reason. Since claims 2-13, 38, 40 and 41 directly or indirectly depend from claim 1, and since claims 26-37, 39, 42 and 43 directly or indirectly depend from claim 25, these claims are similarly not rendered obvious by the Tinsley and Renwick patents.

Further, one skilled in the art would not have been motivated to combine these patents as proposed by the Examiner. As stated above, the Examiner concedes that the Tinsley patent does not teach determining whether or not to generate a further message to signal the label-switched path. (See Paper No. 20070904, page 3.) This is naturally the case since the Tinsley patent discusses using **previously established** MPLS paths, with quality of service (QoS) guarantees, thereby defining a virtual IMT bus to enable communications between distributed DGRES. (See, e.g., column 5, lines 14-25 and column 6, lines 56-59.) In the Tinsley patent, the IP header 602 and MPLS header 604 are part of a packet 600 used for SS7 call signaling over an existing label-switched path. It is not used for establishing a label-switched path.

Since the Renwick patent concerns establishing multiple label-switched paths in a route that has multiple physical links using MPLS, one skilled in the art would not have been motivated to modify an aspect of the Tinsley patent that occurs after a label-switched path already exists in view of the Renwick patent. Even assuming, arguendo, that one skilled in the art were to combine the Tinsley and Renwick patents in their

entirety, the results would be distributed gateway of DGREs performing SS7 routing functions which establishes multiple label-switched paths over multiple physical links for ensuring QoS for communications between the DGREs. However, such a combination would differ from the claimed invention since the label-switched paths established for QoS purposes would not be established based on determining whether to use a first or second part of a message to generate a further message for signaling the label-switched path depending on whether the message includes extended information.

Thus, independent claims 1 and 25, as amended, are not rendered obvious by the Tinsley and Renwick patents for at least this additional reason. Since claims 2-13, 38, 40 and 41 directly or indirectly depend from claim 1, and since claims 26-37, 39, 42 and 43 directly or indirectly depend from claim 25 these claims are similarly not rendered obvious by the Tinsley and Renwick patents.

Finally, independent claim 14, as amended, is not rendered obvious by the Tinsley and Renwick patents because these patents neither teach, nor suggest, a first field including a label stored in association with a label-switched path, a second field including forwarding equivalency class information stored in association with the label-switched path, and a third field including label-switched path signaling resolution information stored in association with the label-switched path, the label-switched path signaling resolution information including one of a host address and a host prefix, wherein a forwarding device, receiving the message, processes the message to (1) determine whether or not the

forwarding device has a routing table entry that matches at least one of (A) the forwarding equivalency class information included in the second field, and (B) the host address or the host prefix included in the third field, and (2) use the label included in the first field for forwarding data only if the forwarding device determined that the forwarding device has a routing table entry that matches at least one of (A) the forwarding equivalency class information included in the second field, and (B) the host address or the host prefix included in the third field.

The Examiner applied the Tinsley and Renwick patents to claim 14. Although the IP packet 600 of Figure 6A of the Tinsley patent includes a label 610, it does not include a second field including forwarding equivalency class information stored in association with the label-switched path, and a third field including label-switched path signaling resolution information stored in association with the label-switched path, the label-switched path signaling resolution information including one of a host address and a host prefix. Furthermore, the Renwick patent does not compensate for the deficiencies of the Tinsley patent because the Renwick patent also does not teach a third field including label-switched path signaling resolution information (which is different from the label stored in the first field and the FEC information stored in the second field) stored in association with the label-switched path, the label-switched path signaling resolution information including one of a host address and a host prefix.

Thus, independent claim 14, as amended, is not rendered obvious by the Tinsley and Renwick patents for at least the foregoing reason. Since claims 16, 19 and 24 depend from claim 14, and since claim 17 depends from claim 16, these claims are similarly not rendered obvious by the Tinsley and Renwick patents.

At least some embodiments consistent with the present invention advantageously permit LDP-signaled LSPs without requiring information about remote ASs (e.g., FEC element prefixes or host addresses that are external to the IGP) to be injected into the local IGP. As stated in the specification:

RFC 3036 describes label mapping message procedures in § 3.5.7.1. In particular, this section specifies that an LSR receiving a label mapping message from a downstream LSR for a Prefix or Host Address FEC Element should not use the label for forwarding unless its routing table contains an entry that exactly matches the FEC element. This may be provided to ensure that the LDP LSP will follow the shortest path calculated by a routing protocol, and to ensure that there will be no routing loops. This requirement is not a problem when the LSP is within a single network domain (or a single autonomous system (AS)), such as the case illustrated in Figure 4 in which an LSP is provided between provider edge devices (PE) 420, 430 in a network domain 410, to provide virtual private network (VPN) services to customer edge devices (CE) 425, 435 for example.

However, consider a case as illustrated in Figure 5 in which an LSP is included in more than one AS 510, 520, 530. This situation may arise either in a

multi-provider scenario, or in the case where a single provider has several ASs. LDP and a border gateway protocol (BGP) could be used to signal labels. However, routing information known by nodes in AS 510 might not include information about nodes in AS 520 or AS 530. The routing information could be updated to include information about nodes in other ASs (e.g., routes for LDP FECs could be injected into an IGP), but this may be undesirable. For example, in a multi-AS topology, a service provider ("SP") may not want to advertise a PE's addresses into the local IGP. Rather than using LDP and BGP, a resource reservation protocol (RSVP) could be used end-to-end. However, end-to-end RSVP is not standard and is not as scalable. Further, many network service providers are already running LDP in their networks. Another alternative solution is to use end-to-end BGP. However, this requires a three-label stack (e.g., 500:900:PE1 and some customer hardware does not support three label stacks.

In view of the foregoing, it may be desirable to allow LDP-signaled LSPs without requiring information about remote ASs (e.g., FEC element prefixes or host addresses that are external to the IGP) to be injected into the local IGP. [Emphasis added.]

Paragraphs [0016]-[0018]. Dependent claims 8-10 and 32-34 more clearly recite this aspect of the invention. There is nothing in the Tinsley and Renwick patents that even contemplate this.

New Claims

New independent claim 44 is supported, for example, by Figure 8 and paragraphs [0045]-[0050] of the present application.

New claims 45-48 depend from claim 1 and further distinguish the claimed invention over the cited references. The features recited in the claims are supported, for example, by Figure 8 and paragraphs [0045]-[0050] of the present application.

Conclusion

In view of the foregoing amendments and remarks, the applicants respectfully submit that the pending claims are in condition for allowance. Accordingly, the applicants request that the Examiner pass this application to issue.

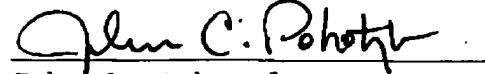
Any arguments made in this amendment pertain **only** to the specific aspects of the invention **claimed**. Any claim amendments or cancellations, and any arguments, are made **without prejudice to, or disclaimer of**, the applicants' right to seek patent protection of any unclaimed (e.g., narrower, broader, different) subject matter, such as by way of a continuation or divisional patent application for example.

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Respectfully submitted,

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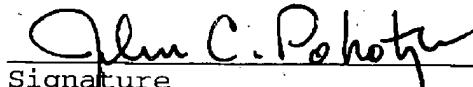

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